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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/524,407	02/11/2005	Rudy Willem Jozef Pollen	NL 020782	4837

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PHILIPS INTELLECTUAL PROPERTY & STANDARDS  
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EXAMINER
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NGUYEN, LINH THI

ART UNIT	PAPER NUMBER
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2627

DATE MAILED: 09/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/524,407	<b>Applicant(s)</b> POLLEN, RUDY WILLEM JOZEF	
	<b>Examiner</b> Linh T. Nguyen	<b>Art Unit</b> 2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 27 June 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 4 is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-13 is/are rejected.
- 7) ☒ Claim(s) 1-5, 8, 9 and 11-13 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Claim Objections***

Claims 1-5, 8, 9 and 11-13 objected to because of the following informalities: the letters PCB needs to be spell out. Appropriate correction is required.

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3 and 5-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haruguchi et al (US Publication Number 20030016597) in view of Isomura (US patent number 5038240) in further view of Kim et al (6831833).

In regards to claims 1 and 8 Haruguchi et al discloses an optical disk drive and method, comprising: a housing; a drive motor and a drive shaft mounted within the housing and adapted to engage the disk for rotating it (Fig. 1), an optical pick-up unit (Fig. 1, element 3), including a fixed part comprising at least a light source (Fig. 2, element 13), and a movable part (Fig. 2, element 12; actuator) with sliding mounted possibility on a guide (Fig. 2, elements 8 and 9) and comprising at least a mirror (Fig. 2, element 22), a focusing lens, and lens-moving elements (Fig. 2, element 12), said movable part being adapted to move a focused beam along the disk (Fig. 3), a PCB

having a signal connection to the lens-moving elements on the movable part of the pick-up unit through flexible wires (Paragraph [0064]),

Haruguchi et al does not but Isomura discloses a disk drive characterized in that only one PCB is provided which serves as a mounting base for the fixed part of the optical pick-up unit, the guide, and the drive motor (Fig. 8). However, Haruguchi et al and Isomura does not disclose a PCB within the housing.

In the same field of endeavor, Kim et al discloses an optical disk drive, wherein the PCB is contained within the housing (Fig. 2, element 40). At the time of the invention it would have been obvious to person of ordinary skill in the art to combine the optical disk drive of Haruguchi et al with a PCB connected to the optical pick-up and drive motor suggested by Isomura with the PCB within the housing as suggested by Kim et al. The motivation for doing so would have been to shield the PCB within the housing.

In regard to claim 2, Haruguchi and Isomura et al does not but Kim et al discloses the optical disk drive, wherein the PCB accommodates electronic components which are mounted to the PCB on a side thereof facing an adjacent housing wall (Fig. 8; electronic components consist of circuit pattern, parts of motor controller, and parts of read/write circuit). The motivation is the same as claim 1 above.

In regards to claim 3, Haruguchi et al and Isomura does not but Kim discloses the disk drive, wherein the PCB is mounted to the housing through heat-conducting mounting means, such as a heat-conducting mat (Fig. 2, element 55). The motivation for doing so would have to improve the distribution of the heat from the housing.

In regards to claim 5, Haruguchi et al does not but Isomura discloses the disk

drive, wherein the linear guide (Fig. 9, element 48) for the movable part of the optical pick-up unit is mounted directly on the PCB (Fig. 3, element 50). At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify the optical disk drive of Haruguchi et al to mount the movable part of the optical pick-up directly on the PCB as suggested by Isomura. The motivation for doing so would have been to arrange the apparatus to be thinner.

In regards to claim 6, Haruguchi et al does not but Isomura discloses the disk drive as, wherein the housing is made of metal (Column 4, lines 6-9). At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify Haruguchi et al optical disk drive have a housing made of metal suggested by Isomura. The motivation for doing so would have been to provide a harder and stronger housing.

In regards to claim 7, Haruguchi et al discloses the optical disk drive as claimed in claim 1, wherein the movable part of the pick-up unit comprises an actuator having driving coils for the focusing lens, said driving coils being connected to the PCB through said flexible wires (Paragraph [0081] and [0087]).

In regards to claims 9, 12, and 13, Haruguchi et al does not but Isomura discloses the method as claimed in claim 8, wherein the parts (2, 5, 9) and electrical components are fixed to the PCB in one soldering step (Column 2, lines 56-58; Fig. 8). The motivation is the same as claim 5 above.

In regards to claim 10, Haruguchi et al and Isomura does not but Kim et al discloses an optical disk drive, wherein the heat-conducting mounting means is a heat-conducting mat (Fig. 2, element 55). The motivation is the same as claim 3 above.

In regards to claim 11, Haruguchi et al and Isomura does not but Kim et al discloses an optical disk drive, wherein the optical disk drive includes a heat conducting mounting means in addition to the PCB and the heat conducting mounting extends between the PCB and the adjacent wall of the housing (Fig. 2, element 55).

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-3 and 5-13 have been considered but are moot in view of the new ground(s) of rejection.

### ***Allowable Subject Matter***

The following is a statement of reasons for the indication of allowable subject matter:

In regards to claim 4, none of the references of record alone or combination disclose or suggest an optical disk drive comprising: a housing; a drive motor (2) and a drive shaft (3) mounted within the housing and adapted to engage the disk (D) for rotating it, an optical pick-up unit, including a fixed part comprising at least a light source, and movable part, with sliding mounted possibility on a guide and comprising at least a mirror, a focusing lens, and lens-moving elements, said movable apart being adapted to a move a focused beam along the disk, a PCB having a signal connection to the lens-moving elements on the movable part of the pick-up unit through flexible wires, and wherein the same PCB serves as a mounting base for the fixed part of the optical pick-up unit, the guide, and the drive motor and **wherein the flexible wires are**

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**contained within a wire flex which is bent about one bending axis only, said bending axis being substantially parallel to the shaft of the drive motor, the wire flex bending about the bending axis during operation.**

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Nishihara et al discloses wound wire is solder in place on the housing.

Shimozawa et al discloses lead wires that are connected to the photo diode.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Linh T. Nguyen whose telephone number is 571-272-5513. The examiner can normally be reached on 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, A. Wellington can be reached on 571-272-4483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LN  
September 6, 2006

  
ANDREA WELLINGTON  
SUPERVISORY PATENT EXAMINER